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Studies on African Aradidae II.
New records of apterous Carventinae from South Africa

(Heteroptera, Aradidae, Carventinae)

By Ernst HEISS and David JACOBS

Abstract

From South Africa, only the genus *Dundocoris*, HOBERLANDT, 1949, with four species of apterous Carventinae has been recorded to date. Now additional material is available that allows a reconsideration of the taxanomic status of the known species and the description of new taxa. *Pondocoris* gen. n. is erected for *Dundocoris latebrosus* HOBERLANDT, 1959, and *Trichocarventus klapperichi* gen. n, sp. n., and *Dundocoris nigromaculatus* sp. n., are described as new.

Introduction

This paper was originally prepared for the description of the new genera and species here included, which were collected by J. KLAPPERICH in South Africa in 1981 and are in the collection of the senior author (EH). On the occasion of a joint collecting trip by both authors in Natal in 1985, additional specimens of this and other new genera and species of apterous Carventinae were found due to the vast field experience of the junior author (DJ). In order to include the new material and the scanning electron microphotographs prepared by DJ, the manuscript has now been revised. New taxa other than those included here will be treated in a separate paper by DJ.

Eight genera of Carventinae comprising 25 species have been described to date from the Ethiopian region. Four of these (*Andobocoris* HOBERLANDT, 1963; *Comorocoris* HEISS, 1986; *Dundocoris* HOBERLANDT, 1949; *Veroncaptera* VÁSÁRHELYI, 1979) are known to be apterous. From South Africa, only the genus *Dundocoris* with the following four species is known:

D. callani HOB., 1959 (♀, Cape Province, Bathurst)
D. latebrosus HOB., 1959 (♂, Pondoland)
D. natalensis KORM., 1961 (♂, Natal, Oribi Gorge)
D. stuckenbergi KORM., 1961 (♂, Natal, Pietermaritzburg)

All have been described on single specimens and the opposite sex is still unknown. The abundance of material now available allows a comparative study and reconsideration of the taxonomic status of the known species and the description of new taxa as follows.

Material and methods

Apterous Carventinae collected in their living habitat e. g. under and on dead logs, branches, twigs associated with fungi, sampling leaf moulds on the forest floor, are covered with a whitish incrustation

which conceals most of the surface structures. Its removal is necessary for a detailed study of the thoracal and abdominal sutures, whose development and degree of fusion represents an important taxonomic character in apterous Aradidae. Therefore specimens examined by scanning elecron microscope were cleaned with an ultrasonic sound cleanser before being coated with gold. For further treatment details, see Jacobs (1986).

For the general morphological terminology, we follow the proposals of Jacobs (1986).

Abbreviations used in the text:

DELTg = Dorsal external laterotergite (connexivum)

VLTg = Ventral laterotergite

MTg = Mediotergite

All measurements are given in millimeters, and were made with an ocular micrometer of a binocular microscope.

When not otherwise stated, the material cited is deposited in the collections of the authors (EH, DJ). Abbreviations used for institutions: BMNH = British Museum (Natural History) London; NMP = National Museum Prague.

Description of genera and species

Pondocoris gen. n. (Figs. 1–13)

The new record of specimens described earlier as *Dundocoris latebrosus* Hob. and the comparison with additional material of other *Dundocoris* species has revealed that *D. latebrosus* shows distinctive characters which separate it from all other apterous Carventinae. A new genus is therefore proposed.

Description.

Apterous, body elongate, oval, incrustate, shining and granular beneath the incrustation, granules with short, stiff bristles.

Head longer than its width across eyes, genae finger-like, produced beyond clypeus, divergent, not touching in front of clypeus. The latter with a prominent round tubercle anterodorsally. Antenniferous spines well developed, divergent. Postocular tubercles present. Eyes globular. Head constricted behind postocular tubercles to neck region. Antennae distinctly longer than width of head, first segment thickest, surpassing apex of genae, second shorter and more slender, club shaped, third longest and cylindrical, slightly enlarged apically, fourth segment short, fusiform, conical apex pilose. Rostrum arising from a slit-like atrium, rostral groove deep and closed posteriorly.

Thorax. Pronotum trapezoidal, more than three times as wide as long with a very distinct, elevated ring-like collar, which bears 2 (1 + 1) smaller tubercles dorsolaterally and 2 (1 + 1) large prominent rounded tubercles laterally. Lateral lobes with dense granulation, deeply incised before collar, anterolateral angles subrectangular, posterolateral lobes rounded, projecting laterally, lateral margins upturned, concave. Lateral propleural margin visible from above expanding into small rounded lobes anteriorly and posteriorly, separated from pronotal margin by a distinct sulcus. Disk formed by 2 (1 + 1) smooth plates, which are separated medially by a deep longitudinal groove which may reach the collar ring. Posterior margin convex, seprated from mesonotum by a deep sulcus.

Mesonotum wider but shorter than pronotum, consisting of 2 (1 + 1) subrectangular plates which are separated by a sulcus from metanotum, and an elevated longitudinal median ridge which projects posteriorly over metanotum and half of fused MTg I and II. This ridge bears a median sulcus and is split posteriorly into two ridges ending in a row of granules directed laterally. Lateral lobes granulate, margins slightly concave, tubercular mesonotal margin visible from above. Disk smooth with 2 (1 + 1) comma-shaped elevations laterad of median ridge, separated from the latter by a deep groove.

Metanotum fused with MTg I and II, forming a hexagonal plate. Anterolateral lobes granulate, its lateral margins also slightly concave, tuberculate margin of metapleuron visible from above. Disk with 2 (1 + 1) smooth comma-shaped elevations anteriorly, with coarse granulation and longitudinal rugosities posteriorly. MTg II demarcated by irregular transverse rows of tubercles laterad of a wedge-like median elevation which reaches from posterior margin into the cleft median ridge. This elevated wedge-like sclerite is enlarged at base and longitudinally sulcate on posterior 2/3. Basolateral angles with 2 (1 + 1) short ridges delimiting the sublateral glabrous impressions.

Abdomen. Tergal disk formed by fused MTg III to VI with convex lateral margins and depressed glabrous impressions delimited by elevated ridges. Disk elevated along median line which is highest on MTg IV. Dorsal external laterotergites with subparallel lateral margins, slightly enlarging posteriorly. DELTg I to III fused but marked by a notch on the narrow visible rim of ventral laterotergites, extending anteriorly to lateral lobes of metanotum. Posteroexterior angles of DELTg III to VII increasingly protruding. Surface and lateral margins granular.

MTg VII in female with a transverse carina posteriorly. Paratergites VIII directed backward, conical, not reaching apex of tricuspidate tergite IX.

MTg VII in male raised medially for the reception of the pygophore. Paratergites VIII triangular, reaching level of posterior margin of DELTg VII.

Male genital structures. Visible portion of pygophore pyriform, with rugose surface, dorsally with a cleft median ridge which ends posteriorly in an oval pit with prominent carinate borders (Figs. 5, 6). Parameres with anterolateral reflexed rounded lobe and a basal lateral projection, inner face with long setae (Figs. 7–11).

Ventral side. Pro-, meso- and metasterna flattened at middle, delimited by sutures. Male metasternum with 2 (1 + 1) sublateral, rounded, prominent tubercles on anterior half which bear a small operculate opening subapically (Fig. 12), their function not yet investigated. Pro-, meso- and metapleura with large suboval areas laterad of coxae, dorsally demarcated by a deep sulcate cleft and ventrally by a deep somewhat irregular furrow. Obtuse fingerlike hairs which are thickened at their apices are present dorsally of both these clefts (Figs. 4, 13). These areas are most probably evaporative surfaces and are unique to *Pondocoris* in the Carventinae. Sternites I to III fused, IV to VII separated by deep sulci. Spiracles II to IV ventral, V to VII lateral and visible from above, VIII subterminal.

Legs. Slender, trochanters fused with cylindrical femora, only on hind femora marked by a thin suture. Claws with two bristle-like parempodia and long, thin pseudopulvilli.

Type species: *Dundocoris latebrosus* Hoberlandt, 1959.

Etymology: From Pondoland, now in Transkei province, the type locality.

Discussion: The new genus resembles only superficially the genus *Dundocoris* Hob. and can easily be separated by the elongate subparallel body, the presence and shape of the uninterrupted median ridge extending from mesonotum to MTg II, by metanotum fused with MTg I and II and by the two conspicuous tubercles on metasternum and the peculiar pilose areas on the thoracic pleura, which are not known in other Carventinae.

Genotype: *Pondocoris latebrosus* (Hoberlandt, 1959) comb. n. (Figs. 1–13)

Populations comprising both sexes from different localities in Natal and Transkei, collected by the authors, show no constant morphological differences between them and also compared with the male holotype, and seem to belong to this species. But genetical investigation has revealed three different chromosome numbers which might indicate that there are three different species involved. As this complicated situation will be studied again by the junior author, no further data concerning the yet undescribed female are given here.

Trichocarventus **gen. n. (Figs. 14–21)**

Apterous. Body oval, coated with incrustation, beneath shining, surface including appendages and eyes covered with erect pilosity.

Head distinctly shorter than width across eyes, genae straight, produced beyond clypeus. Antenniferous spines acute, divergent. Eyes stylate. Postocular tubercles developed, ridge-like, strongly converging posteriorly to constricted collar. At base of head 2 (1 + 1) prominent elevated sublateral tubercles. Antennae slender, distinctly longer than width of head; first segment stout, thickened, second shorter and cylindrical, third longest, cylindrical, fourth fusiform, conical apex pilose. Rostrum shorter than head, arising from a slit-like atrium. Rostral groove deep, closed posteriorly.

Thorax. Pronotum considerably wider than long, collar ring-like with 2 (1 + 1) prominent tubercles laterally and 2 (1 + 1) small tubercles dorsolaterally. Lateral lobes granulate, with 2 (1 + 1) prominent tubercles laterally. Lateral lobes granulate, deeply incised before collar, anterolateral angles subrectangular, posterolateral lobes rounded, projecting laterally, lateral margin concave. Disk with a longitudinal groove.

Mesonotum as long as pronotum but wider, at middle with an elevated triangular ridge which extends anteriorly into a cleft of gaping pronotal groove, its apex rounded, medially with a longitudinal sulcus. Lateral lobes granular, projecting, lateral margins converging anteriorly. Mesonotum is separated from metanotum by a transverse sulcus.

Metanotum shorter than mesonotum but wider, with an elevated subrectangular median ridge, also bearing a longitudinal sulcus, lateral margins straight, converging anteriorly. Metanotum separated from MTg I by a sulcus. MTg I forming 2 (1 + 1) elevated transversal ridges, which meet at middle and are curved anteriorly. It is separated from depressed, strongly transversal MTg II by a deep cleft. MTg II with an elongate median elevation, which is also longitudinally sulcate and 2 (1 + 1) sublateral longitudinal elevations.

Abdomen. Tergal disk formed by fused MTg III to VI with slightly convex lateral margins and depressed glabrous impressions. Disk slightly elevated along median line. DELTg I to III fused, anteriorly reaching posterolateral angle of metanotum. Posteroexterior angles of DELTg IV to VII with small but increasing rounded lobes, originating from reflexed ventral laterotergites.

Ventral side. Pro-, meso- and metasterna flattened at middle and delimited by sutures. Sternites I to III fused, IV to VII separated. Spiracles II ventral, far from lateral margin, III and IV ventral, close to margin, V to VII lateral and visible from above, VIII subterminal.

MTg VII in female with a transversal elevated ridge before posterior margin. Paratergites VIII conical, produced posteriorly, as long as tricuspidate tergite IX. MTg VII in male strongly raised medially for the reception of the pygophore. Paratergites VIII slender, reaching apex of pygophore.

Male genital structures: visible part of pygophore pyriform, surface rugose, dorsally with a split elevated median ridge which forms posteriorly a small oval pit with carinate borders (Figs 16, 17). Parameres with an anterolateral reflexed rounded lobe, inner face with long setae (Figs 18–21).

Legs. Slender, trochanters fused with femora, claws with two bristle-like parempodia and thin, long pseudopulvilli.

Etymology: From greek trichotos, meaning pilose.

Type species: *Trichocarventus klapperichi* sp. n.

Discussion. *Trichocarventus* seems related to *Pondocoris* resembling its general shape of body and pronotum, but is closer to *Dundocoris*, showing the same pattern of thoracal median ridges. From both genera it is at once distinguished by its transversal head, the stylate eyes and the conspicuous hairy surface. Further, it lacks the metasternal tubercles of *Pondocoris*.

Trichocarventus klapperichi sp. n. (Figs 14–21)

Male. Body elongate with subparallel sides, covered on dorsal and ventral surface with long, erect pilosity. Colour reddish-brown, darker are the anterolateral angles of DELTg II to VII, lateral half of MTg II, MTg VII and VIII and tergite IX in female, MTg VII and pygophore in male; the median elevation of tergal disk is yellowish on posterior half.

Head, length including neck/width across eyes 1.02/1.12; anterior process of genae straight, producing well beyond apex of clypeus, reaching 2/3 of antennal segment I, its apices rounded. Antenniferous spines diverging anteriorly, apices acute. Eyes granular, stalked, strongly produced laterally. Postocular tubercles forming a rounded lobe, by far not reaching lateral margin of eyes, posteriorly carinate and strongly converging. Vertex with a longitudinal elevation flanked by 2 (1 + 1) granulate carinae, laterad of them with 2 (1 + 1) round impressions and 2 (1 + 1) prominent tubercles posteriorly. Antennae 1.51 times as long as width across eyes, length of segments I:II:III:IV = 0.47:0.32:0.55:0.35; first segment thickest, slightly curved and tapering towards base, second shorter and thinner, third longest and thin, fourth fusiform, its conical apex pilose. Rostrum short, not reaching posterior margin of head, arising from a slit-like atrium. Rostral groove wide, closed posteriorly, its lateral borders granulate.

Thorax. Pronotum length/width across posterior lobe 0.57/1.95 with a well developed ring-like collar, which bears 2 (1 + 1) smaller tubercles dorsolaterally and 2 (1 + 1) strong projecting ones laterally on a lower level. Collar thickened between dorsolateral tubercles. Lateral lobes slightly upturned, surface densely granular, incised before collar anteriorly, then angularly produced, lateral margin concave, posterolateral angle produced and rounded. Disk depressed and smooth with a longitudinal groove medially, which separates also the transversal ridge behind collar. Posterior margin feebly sinuate, marked by a transversal carina.

Mesonotum length/width 0.55/1.80, slightly reflexed and lobately produced laterally, roundedly produced posteriorly with a triangular median elevation bearing a longitudinal sulcus. Lateral lobes subrectangular, densely granular, lateral margins converging anteriorly. Disk less granular with 2 (1 + 1) smooth rounded plates. Mesonotum separated from metanotum by a distinct transversal groove which is projected backwards medially.

Metanotum shorter medially, but longer laterally than mesonotum, length/width 0.32/2.30, lateral lobes thickened but not produced and densely granular, lateral margins straight, converging anteriorly. Posterior margin delimited by a bisinuate sulcus which separates metanotum from MTg I. Median subrectangular elevation with a longitudinal sulcus, surface roughly granular. Disk consisting of 2 (1 + 1) rounded plates laterad of median elevation, its surface smooth anteriorly and roughly granulate on posterior 2/3.

MTg I forming an elevated bisinuate transversal ridge with a shallow median groove, separated from MTg II by a deep groove. MTg II depressed with a median groove and 2 (1 + 1) short ridges flanking the groove and 2 (1 + 1) longitudinal ridges on posterolateral angles.

Abdomen. Tergal plate formed by fused MTg III to VI with convex lateral margins, glabrous impressions deep, surface granular, the submedian ones separated by Y-shaped carinae; feebly elevated along median line. DELTg I to III fused and converging anteriorly, DELTg IV to VII subrectangular, VII angularly produced posteriorly. Posteroexterior angles of all segments marked by small rounded lobes which increase in size posteriorly and present the reflexed ventral laterotergites. Surface rugose.

MTg VII in male raised medially with 2 (1 + 1) prominent tubercles anterolaterally. Pygophore pyriform with rugose surface, dorsally with a cleft ridge which forms a pit with carinte borders posteriorly. (Figs. 16, 17). Parameres as figs 18–21. Paratergites VIII slender, reaching apex of pygophore.

MTg VII in female only slightly elevated, smooth anteriorly, with a transverse carina before posterior margin. Paratergites VIII projecting as conical lobes with acute apices, reaching apex of trilobate tergite IX.

Ventral side. Pro-, meso- and metasternum flattened at middle, separated by sulci. Sternites I to III fused. Spiracles II ventral, far from lateral margin, III and IV ventral and close to margin, V to VII lateral and visible from above, VIII subterminal.

Legs slender with long erect hairs, trochanters fused. Claws with bristle-like parempodia and long pseudopulvilli.

Chromosome number: 2 n (♂) = 28 XY

Measurements: length of holotype ♂ 5.25; width of abdomen across tergite IV 2.50; female similar to male but larger, length 5.5 to 6.7 mm, paratypes male vary in size from 4.3 to 5.3 mm.

Material examined: Holotype ♂, South Africa, Natal, Ngoye Forest Reserve nr. Mtunzini, 28°50′S, 31°43′E, VIII. 85 (BMNH); paratypes: 2 ♂♂ 2 ♀♀ collected with holotype (EH); 2 ♂♂ 1 ♀ Natal, St. Lucia 25. X. 80 lg. Klapperich (EH); 19 ♂♂ 37 ♀♀: Transvaal, Hanglip Forest, Louis Trichardt, 23°00′S, 30°16′E, 7–9. V. 1978, (DJ); 1 ♂ 2 ♀♀: Transvaal, Woodbush Forest, 23°50′S 30°00′E, 9. V. 1978, (DJ); 6 ♂♂ 14 ♀♀: Transvaal, Magoebaskloof nr. Tzaneen, 23°52′S 30°00′E, 9. XI. 1980, (DJ); 17 ♂♂ 17 ♀♀: Transvaal, Mariepskop Forest nr. Hoedspruit, 24°33′S 30°54′E, 6. X. 1981, Liebenberg & Jacobs (DJ); 2 ♂♂ 2 ♀♀: Transvaal, Mariepskop Forest ZA.8, VIII 1960, humus, no collector given (Transvaal Museum); 6 ♂♂ 2 ♀♀: Transvaal, Blyderivierspoort Nature Reserve, 24 °39′S 30°54′E, 28–30. I. 1989, (DJ) 1 ♀ X. 81 Klapperich (EH); 1 ♂ 2 ♀♀: Transvaal, Welgevonden Forest nr. Hoedspruit 24°43′S 30°56′E, 8. X. 1981, Liebenberg & Jacobs (DJ); 3 ♂♂: Transvaal, Mac-Mac Falls, nr. Sabie, X. 1983, C. H. Scholz (DJ); 1 ♂: Transvaal, Bridal Veil Falls, Nr. Sabie, 25°05′ 30°44′E, 5. XI. 1988, (DJ); 17 ♂♂ 14 ♀♀: Natal, Ngoye Forest, nr. Empangeni, 28°50′S 31°43′E, 11–12. XII. 1980, (DJ); 3 ♂♂ 2 ♀♀: Natal, Umlalazi Nature Reserve nr. Mtunzini, 28°58′S 31°46′E, 21–23. VIII. 1985, (DJ).

Etymology: It is a pleasure to dedicate this striking species to Mr. Josef and Mrs. Sybille Klapperich, who collected many interesting Heteroptera in Africa and Asia.

Dundocoris nigromaculatus sp. n. (Figs 22–30)

Male. Body oval, shining and granular beneath incrustation. Colour yellowish-brown, black are the anterolateral angles of DELTg II to VII, a spot at middle of the elevation of tergal disk, the pygophore in male, MTg VII and VIII medially and tergite IX in female. Lateral margins of body finely granulate, the granules bearing small, stiff erect bristles.

Head length including neck/width across eyes 1.02/0.96; anterior process of genae straight with blunt apices, reaching 1/2 of antennal segment I. Clypeus with a prominent tubercle anterodorsally. Antenniferous spines slightly diverging anteriorly, apices acute. Eyes small, globose. Postocular tubercles small and acute, reaching outer border of eyes, posterior margin converging to constricted neck. Vertex with three rows of longitudinal carinae, depressed laterad before eyes. Antennae 2.08 times as long as width across eyes, length of segments I:II:III:IV = 0.5:0.387:0.775:0.34; first segment thickest, tapering towards base and apex; second thinner, enlarged posteriorly, third is the longest and twice as long as second, thin, slightly enlarged at apex; fourth fusiform with pilose conical apex. Rostrum short, not reaching posterior margin of head, arising from a slit-like atrium. Rostral groove wide and closed posteriorly, its lateral margins granulate.

Thorax. Pronotum length/width across posterior lobes 0.625/1.75, with a thick, ring-like collar which bears 2 (1 + 1) small round tubercles dorsolaterally and 2 (1 + 1) large, projecting tubercles laterally on a lower level. Lateral lobes slightly upturned, surface densely granular, incised before collar. Anterolateral angles projecting over collar. Posterolateral lobes rounded, projecting, lateral margins granulate and concave. Disk separated from collar by a deep sulcus and a transversal carina, with a longitudinal groove widening at base. Surface rugose. Posterior margin convex.

Mesonotum wider than pronotum, width across posterior lobe 2.25. Subtriangular median elevation with a longitudinal sulcus anteriorly, producing posteriorly into a thin ridge which reaches anterior margin of MTg II. Lateral lobes with 2 (1 + 1) smooth oblique plates adjacent to median ridge, then rugose, lateral margins slightly reflexed, granulate and converging anteriorly.

Metanotum longer and wider than mesonotum, width across posterior lobe 2.5, with 2 (1 + 1) elevated oval sclerites laterad of projecting metanotal ridge; fused with bisinuate MTg I which has the shape of 2 (1 + 1) curved, elevated transversal ridges. Lateral lobes with 2 (1 + 1) smooth round plates with a row of distinct granules posteriorly, then rugose, lateral margins reflexed and converging anteriorly, constricted posteriorly.

MTg II depressed, separated from MTg I anterolaterally by a thin suture, with 2 (1 + 1) L-shaped elevations laterad of median groove and 2 (1 + 1) short ridges on posterolateral angles.

Abdomen. Tergal plate with deep glabrous impressions, the submedian ones separated by Y-shaped carinae, roundedly elevated along median line with highest point on posteriorly producing MTg III. Around scent glands surface transversely striate. DELTg I to III fused, reaching anteriorly to posterolateral angle of metanotum. Posteroexterior angles of DELTg II to VII with small but increasing rounded lobes, formed by the reflexed ventral laterotergites. Surface of DELTgs rugose.

MTg VII in male raised medially, with a feeble transverse ridge before posterior margin and 2 (1 + 1) prominent tubercles anterolaterally. Pygophore pyriform with rugose surface (Figs 25, 26), paratergites VIII slender, not reaching apex of pygophore. Parameres as figs 27–30.

MTg VII in female with a transverse granular carina posteriorly, paratergites VIII produced posteriorly, not reaching apex of tricuspidate tergite IX.

Ventral side: pro-, meso- and metasternum separated by a sulcus, with 2 (1 + 1) lateral projections which are contiguous with coxae. Sternites I to III fused. Spiracles II ventral, far from lateral margin, III and IV ventral and close to margin, V to VII lateral and visible from above, VIII subterminal.

Legs slender, trochanters fused with femora, parempodia and pseudopulvilli present.

Chromosome number: 2 n (♂) = 20 XY

Measurements: length of holotype ♂ 5.15, width of abdomen across tergite IV 2.65; female similar to male but larger and body more convex, length 5.9 to 6.7.

Material examined: Holotype ♂ South Africa, Natal, St. Lucia 25. X. 81 lg. Klapperich (BMNH); paratypes as follows: 2 ♂♂ 2 ♀♀: collected with holotype (EH); 6 ♂♂ 3 ♀♀; Natal, Umlalazi Nat. Reserve nr. Mtunzini, 28°58′E, VIII. 85 (EH); 14 ♂♂ 6 ♀♀: ditto. 21–23. VIII. 1985, (DJ); 9 ♂♂ 5 ♀♀: Natal, Ngoye Forest, 28°50′S 31°43′E (EH); 68 ♂♂ 20 ♀♀: ditto, 11–12. XII. 1980, (DJ); 10 ♂♂ 8 ♀♀: ditto, 22. VIII. 1985, (DJ); 12 ♂♂ 8 ♀♀: Natal, Dhlinza Forest, nr. Eshowe, 24°54′S 31°27′E (EH); 8 ♂♂ 8 ♀♀: ditto, 21. VIII. 1985, (DJ); 3 ♀♀: ditto, 12. IV. 1980, (DJ).

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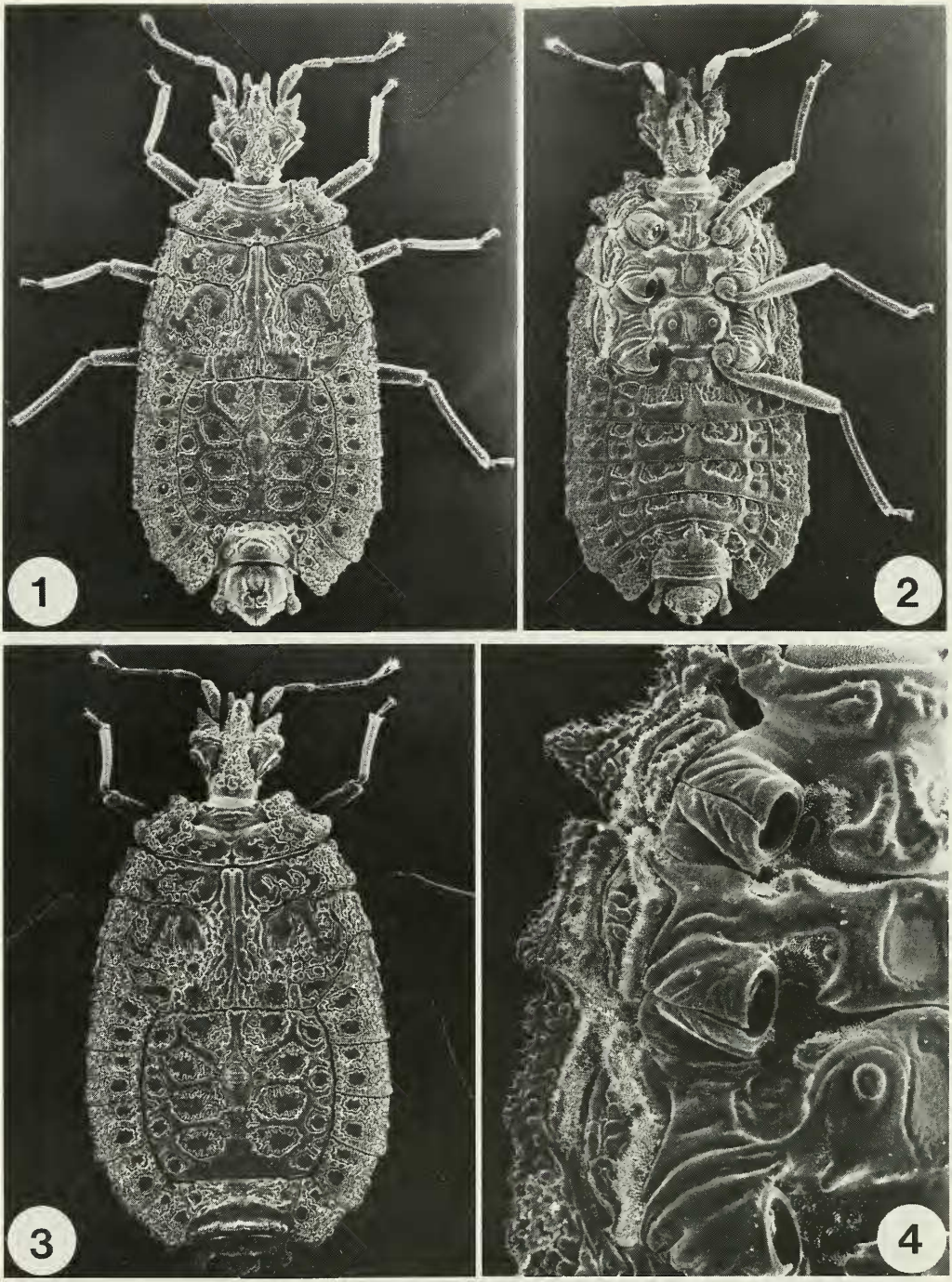
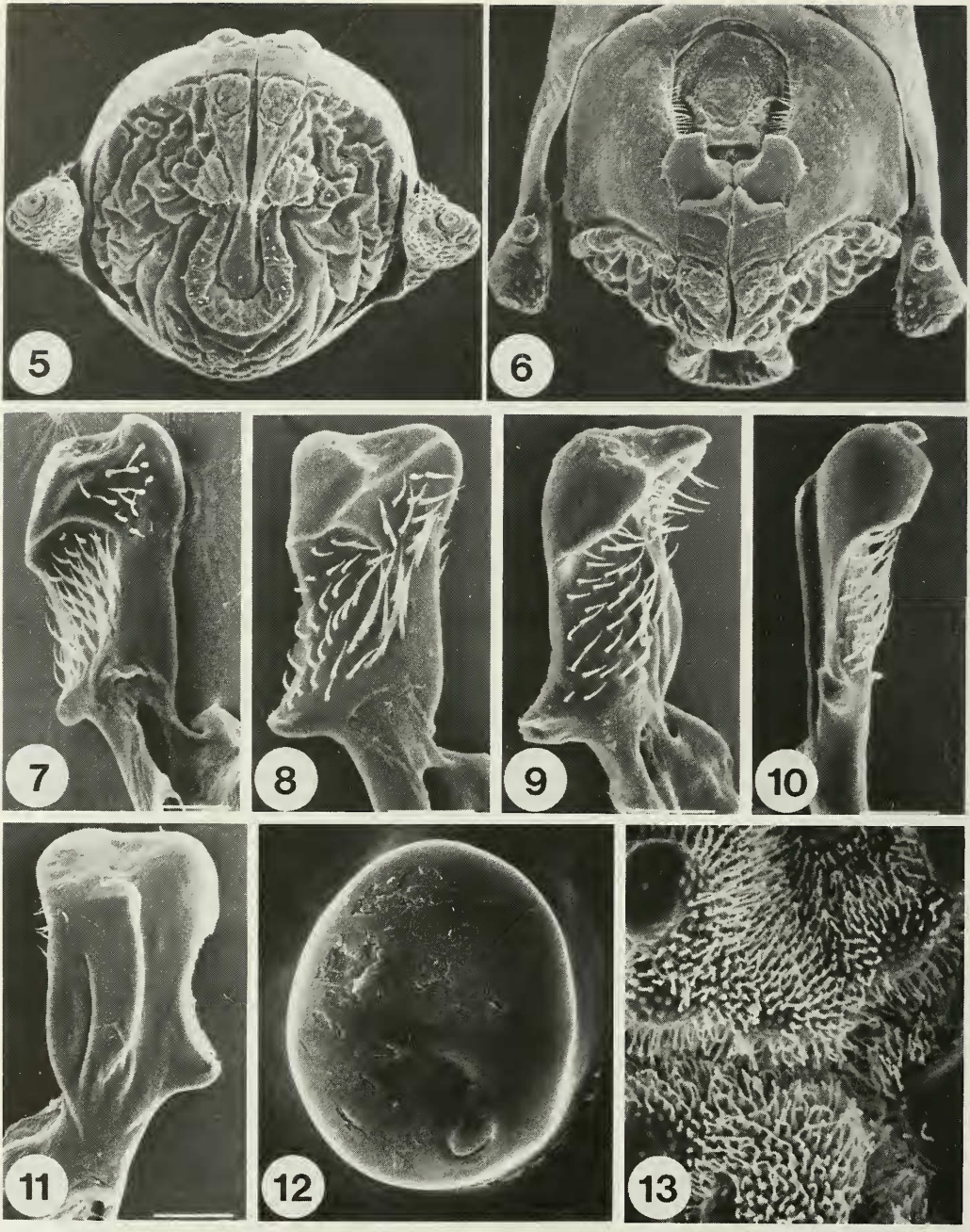
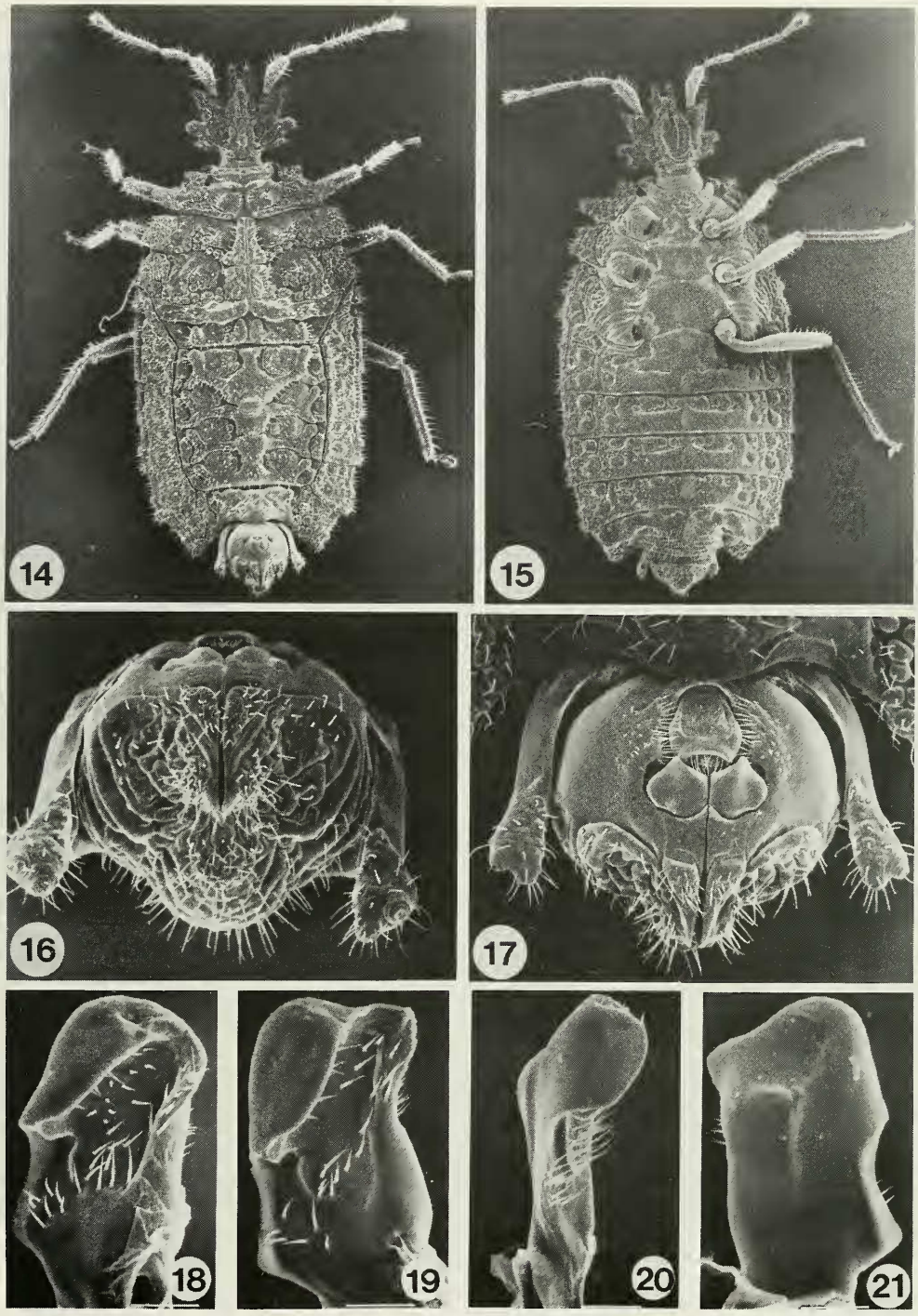


Figs 1–4. Scanning electron microphotographs of *Pondocoris latebrosus* (HOBERLANDT). 1. Male, dorsal aspect. 2. Male, ventral aspect. 3. Female, dorsal aspect. 4. Lateroventral aspect of thorax of male showing the evaporative areas.



Figs 5–13. Scanning electron microphotographs of *Pondocoris latebrosus* (HOBERLANDT) 5–6. Male pygophore. 5. Caudal aspect. 6. Dorsal aspect. 7–11. Different aspects of left paramere (scale bar = 50 μm). 12. Metasternal tubercle of male with operculate opening. 13. Surface of evaporative area showing the capitate hairs.



Figs 14–21. Scanning electron microphotographs of *Trichocarventus klapperichi* gen. et sp. n. 14–15. Male paratype. 14. Dorsal aspect. 15. Ventral aspect. 16–17. Pygophore. 16. Caudal aspect. 17. Dorsal aspect. 18–21. Different aspects of left paramere (scale bar = 50 μm).

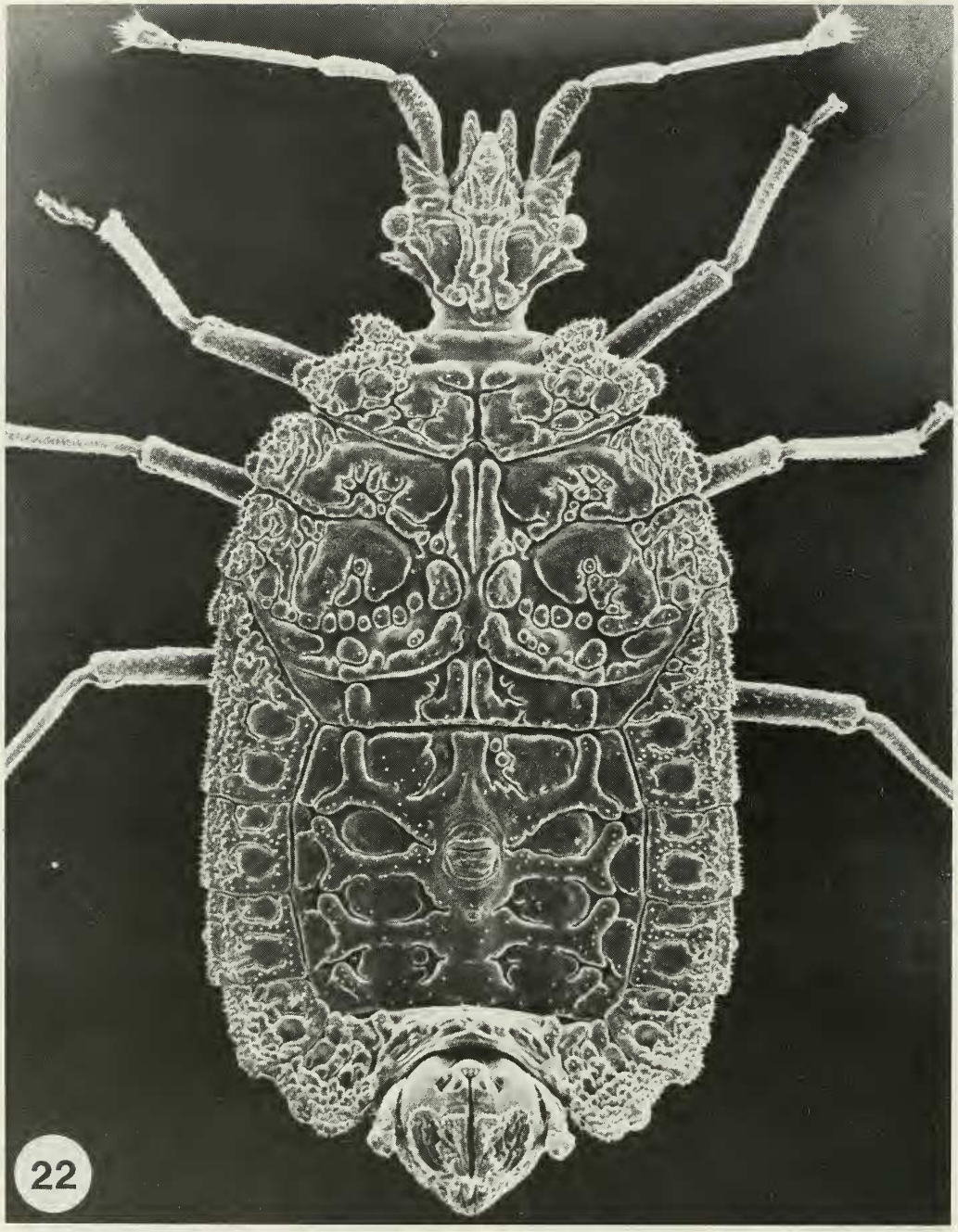
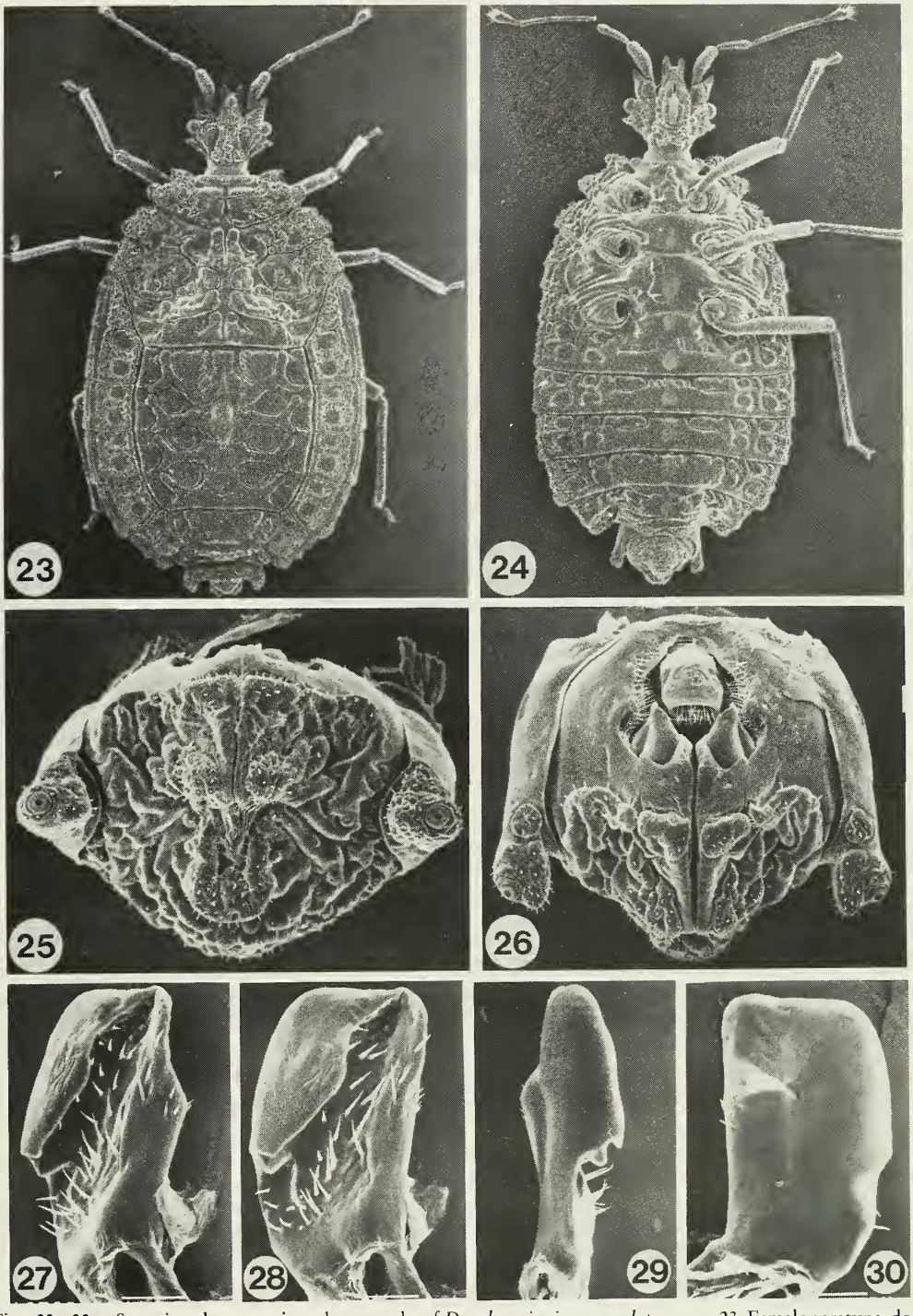


Fig. 22. Scanning electron microphotograph of *Dundocoris nigromaculatus* sp. n., dorsal aspect of male paratype.



Figs 23–30. Scanning electron microphotographs of *Dundocoris nigromaculatus* sp. n. 23. Female paratype, dorsal aspect. 24. Male paratype, ventral aspect. 25–26. Pygophore. 25. Caudal aspect. 26. Dorsal aspect. 27–30. Different aspects of left paramere (scale bar = 50 μm).